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# Theorizing, Measuring, and Predicting Knowledge Sharing Behavior in Organizations – A Social Capital Approach

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## Abstract

This study aims to understand the social and organizational factors that influence knowledge sharing. A model of knowledge management and knowledge sharing was developed inspired by the work of Nahapiet and Ghoshal [45]. Data on demographics and various social capital measures were collected from a sample of members of a tertiary educational institution in Singapore in 2003. Reward & recognition, open-mindedness and cost concerns of knowledge hoarding turned out to be the strongest predictors of knowledge sharing rather than pro-social motives or organizational concern. Overall, the findings provide evidence for the importance of a conducive organizational climate and state-of-the-art performance management systems in high-performing knowledge organizations.

## 1. Introduction

Despite the growing literature on knowledge governance and management [5], [62], [48], [37], [38], [18], [44], we know little about why members of organizations do share knowledge. This essay seeks to address this gap by theorizing about knowledge sharing in knowledge-based organizations with the help of data collected in a tertiary educational institution in Singapore. The theory we propose is rooted in the concept of social capital, drawing together perspectives from the sociology of organizations, economic sociology, social psychology, and the broad umbrella of organizational studies, which encompass literature on knowledge management, organizational behavior, and the strategic theory

of the firm. What drives knowledge sharing behavior in organizations?

## 2. Dimensions of Social Capital

Bourdieu defines social capital as “the aggregate of the actual or potential resources which are linked to possession of a durable network or more or less institutionalized relationships of mutual acquaintance or recognition” [7]. This definition focuses on the benefits accruing to individuals by virtue of participation in groups and on the deliberate construction of sociability for the purpose of creating this resource. Social capital is thus a major aspect of social structure. Like other forms of capital, social capital can be put to productive use [15], [56].

As a resource, social capital facilitates actions of individuals “who are within the structure” [15], e.g. by providing individuals (via network ties) with useful knowledge about opportunities and choices otherwise not available [27], [42], [10], [11]. Social credentials of an individual reflect his or her social standing in the network, and other members may seek to acquire the resource of such credentials by forming alliances with such individuals [42]. The three key dimensions of social capital include structural, relational and agency:

The *structural dimension* of social capital refers to organizational climate factors that can aid such interactions and networks. A key facet of this dimension is *organizational care* [37], [38], [39]. It examines conditions of low-care and

high-care environments in facilitating social exchange as well as *recognition and rewards* [4].

In this essay we look at the *relational dimension* of social capital though the concept of relational embeddedness [27], i.e. the kind of personal relationships people have developed with one another through a history of interactions. This concept focuses on the building of trust into the relations individuals have that influence their behavior [56], [19], [20], [13]. Key facets of this dimension include *competence* [6], [61], *integrity* [32], [43] and *open-mindedness* [66].

The *agency dimension* of social capital examines the role of individual motives in engaging in social interactions that would enable them to acquire the resources available in such interactions [2], [3], [12], [59]. The adoption of motives as a variable in the agency dimension was influenced by Portes' [54] recommendation to investigate "the motivations of the donors, who are requested to make these assets available without any immediate return". Among the key facets identified to explain motives in this dimension are *prosocial motives* [59], *impression management*, *altruism* [35], [16], and *shared values* [12].

### 3. Knowledge Sharing Defined

Helmstadter defines knowledge sharing in terms of "voluntary interactions between human actors [through] a framework of shared institutions, including law, ethical norms, behavioral regularities, customs and so on... the subject matter of the interactions between the participating actors is knowledge. Such an interaction itself may be called sharing of knowledge" [31]. His definition of knowledge sharing highlights the role of social interactions which lends support to the theory of social capital where participation in groups and the deliberate construction of sociability is a prerequisite for the purpose of creating resource, in this case knowledge. It fails, however, to consider issues of politics and power inherent in (involuntary) knowledge sharing interactions [36], [1], [67].

### 4. Tacit and Explicit Knowledge

Knowledge exists in both tacit and explicit forms [53]. Tacit, experience-based knowledge is often

of greater strategic importance than explicit knowledge in form of data, scientific formulae, specifications or manuals. In his analysis of knowledge creation [48], [49], [50], Japanese theorist Nonaka examined the concept in terms of a knowledge spiral encompassing four basic patterns of interaction between tacit and explicit knowledge: socialization, externalization, combination, and internalization. His conceptualization of socialization, externalization and combination is of particular importance in explaining the process of knowledge sharing. All these processes involve joint social interaction with two or more actors whereby tacit knowledge that resides in an individual's mind is articulated and becomes explicit. Tacit knowledge is further refined and becomes clearer through reflection. These processes parallel the basic premise established by Helmstadter's definition of knowledge sharing, which involves the "interactions between human actors [through] a framework of shared institutions" [31].

### 5. Conditions for Knowledge Sharing

What does it take so that individual actors engage in knowledge sharing?

(i) Organizational members must have *opportunities* to do so. Formal opportunities [34] may include training programmes, structured work teams, and technology-based systems that facilitate the sharing of knowledge. Informal opportunities include personal relationships and social networks (e.g. communities of interest) that facilitate the sharing of knowledge. (ii) *Communication modality*: Physical proximity matters. As Nohria and Eccles [46] have highlighted, electronic-mediated exchanges such as e-mail often require the subsequent use of more face-to-face communication to ensure effective sharing of knowledge. (iii) The individual's *expectation of the benefits* members would accrue when they engage in knowledge sharing is crucial, too. O'Reilly and Pondy [51] argue that the probability of actors routing information to other actors is positively related to the rewards they expect from sharing the knowledge. Similar results were reported by Gupta and Govindarajan [25] as well as Quinn et al. [58]. (iv) Another condition of knowledge sharing is the actor's *expectation of the costs of not sharing* knowledge. As stressed by Knights' et al. [36], knowledge sharing can, indeed, be involuntary in nature and is fraught with issues

of power and politics. While individuals may not receive benefits out of knowledge sharing, the costs of not sharing knowledge, e.g. through coercive appraisals or the withdrawal of incentives, may warrant them to involuntarily share their knowledge. (v) The fifth condition involves the *context compatibility* of those who share knowledge. Actors who share certain professional similarities such as work interests or values, tend to engage in knowledge sharing. Huang and Wang [33] found that team members who were selected based on similar work criteria or underwent the same training were motivated to share and create knowledge in organizations. (vi) Motivation is a crucial precondition for knowledge sharing. As Davenport et al. have stressed, knowledge is “intimately and inextricably bound with people’s egos and occupations” [17]. Internal factors that influence knowledge sharing include the perceived power attached to the knowledge and the reciprocity that results from sharing. External factors include relationship with the recipient and rewards for sharing. (vii) Personal compatibility and liking do also play a role. Individuals are more likely to share knowledge with another whom they feel comfortable with or if they share similar personal interests. This is different from the fifth condition, context compatibility, as the former is defined by more personal and intrinsic compatibility factors, while the latter is defined more by professional factors. (viii) Another crucial variable is opportunism (associated with transaction cost analysis). It refers to the possibility that a decision-maker may unconditionally seek his or her self-interests, and that such behavior cannot necessarily be predicted. This argument extends the simple self-interest seeking assumption to include “self-interest seeking with guile” thereby making allowance for strategic behavior [69]. Along this line of argument is Goffman’s example of strategic manipulation of information or misrepresentation of intentions through false or empty threats or promises [24]. The study by Wickramasinghe and Lamb [68] provides respective insights into the world of healthcare.

## 6. Potential Predictors of Knowledge Sharing

Considering the social embeddedness of knowledge sharing, this essay suggests that a relevant theory needs to be grounded in social relationships. The following section explores this

theory by examining the *causal efficacy between the dimensions of social capital and the conditions of knowledge sharing*.

While the focus of the present research considers the impact of each dimension of social capital independently from the other dimensions, it is recognized, however, that these dimensions of social capital may likely be interrelated in important and complex ways. For example, particular structural configurations, such as those with strong communication channels and reward systems, have consistently been shown to be associated with the relational aspect of work group trust [4].

Social capital can facilitate the sharing of knowledge by affecting the necessary conditions for such a process. To explore this proposition, this essay now examines the ways in which each of the three dimensions of social capital – structural, agency and relational – influences the eight conditions knowledge sharing highlighted earlier.

## Hypothesis Development

### 6.1. Structural Dimension of Social Capital as Driver of Knowledge Sharing

We argue that the structural dimension of social capital, encompassing the various facets of organizational climate factors, influences knowledge sharing by affecting the various conditions of knowledge sharing for the sharing of knowledge to occur.

**Organizational care.** According to Krogh, care is a social norm in human relationships and institutions “which involves the dimensions of trust, active empathy, access to help, lenience in judgment, and the extent to which the former four dimensions are shared in the community” [38]. In caring for another, Krogh et al. suggest that a care provider, such as a fellow colleague or senior management in the organization, may provide support and valuable knowledge for the purpose of task execution or integrate a person into the organization and network and so on. This type of support characterizes an organization as one possessing high-care [39]. In a low-care organizational climate, on the contrary, there is a low propensity to help, and care is not a shared value in the organization’s culture. Thus, we hypothesized the following:

*Hypothesis 1: Organizational care is positively related to knowledge sharing.*

**Recognition and rewards.** Bartol and Srivastava [4] as well as Thompson et al. [65] suggest that rewards and incentives are central to the motivation of an individual to pursue resources through strategic linkages or alliances. In the context of knowledge sharing, Davenport et al. suggest that knowledge is “intimately and inextricably bound with people’s egos and occupations” [17]. O’Reilly and Pondy [51] argue that the probability of actors routing information to other actors is positively related to the rewards they expect from sharing the knowledge. These two different perspectives suggest that the sharing of knowledge may likely be influenced by the desire to obtain recognition or the pursuit of strategic alliances through opportunistic motives. We proposed the following hypothesis: *Hypothesis 2: Rewards and recognition are positively related to knowledge sharing.*

## **6.2. Agency Dimension of Social Capital as Driver of Knowledge Sharing**

We argue that the agency dimension of social capital, encompassing the various facets of individual motives, influences knowledge sharing by affecting the various conditions of knowledge sharing for the sharing of knowledge to occur.

**Prosocial motives.** The concept of prosocial motives is more commonly used as a psychometric variable in the field of psychology and has been used in recent years in the study of organizational citizenship behavior [59]. Prosocial motives of an individual may have important relevance to explain why individuals may pursue resources available in interactions characterized by social capital. Prosocial motives, in this case, are defined by the sociability and the propensity of individuals to relate to another because of personal compatibility or liking, and may volunteer knowledge to help another as a result of this compatibility. Based on this formulation, we proposed the following hypothesis: *Hypothesis 3: Individual prosocial motives are positively related to knowledge sharing.*

**Impression Management.** The formulation of this variable is a response to Portes’ [54] suggestion to investigate the motives behind

individuals to volunteer information or resources in a social capital transaction. Impression management is postulated here to be influenced by the expected costs of not sharing knowledge, e.g. withdrawal of incentives, that may lead the individual to share his knowledge to ‘keep up appearances’. *Hypothesis 4: Impression management influences opportunistic behavior and is positively related to knowledge sharing.*

## **6.3. Relational Dimension of Social Capital as Driver of Knowledge Sharing**

In section 6.3. we argue that the relational dimension of social capital, encompassing the various facets of work-group trust, influences knowledge sharing by affecting the various conditions of knowledge sharing for the sharing of knowledge to occur.

**Competence.** Blau [6] and [61] have argued that the ability to perform work tasks, also known as *proficiency or competence*, builds trust with the colleagues the individual interact with in an organization. This is based on the assumption that ability fulfils some measure of trust on the particular individual in successfully completing a given task; in terms of knowledge sharing, it denotes an ability to relay trustworthy information to the work group. In order to understand the influence of ability as a facet of trust in social capital, we hypothesized the following: *Hypothesis 5: Competence will be positively related to knowledge sharing.*

**Open-mindedness.** Tjosvold, Hui & Sun [66] suggest that open-mindedness integrates people in a community and confers harmony and trust that new ideas and practices will not be discounted but accepted. In the context of knowledge sharing, we hypothesized the following: *Hypothesis 6: Open mindedness is positively related to knowledge sharing.*

## **7. Method**

### **7.1. Sample**

To understand the social and organizational factors that influence knowledge sharing, a model of knowledge sharing was developed based on the work of Nahapiet and Ghoshal [45]. This model is presented in Figure 1.

Figure 1: A Model of the Antecedents of Knowledge Sharing

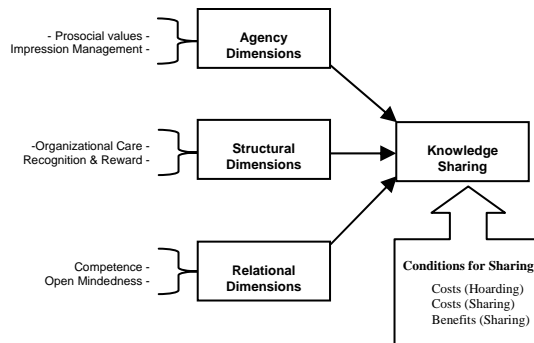


Table 1. Means and standard deviations of major study variables

	Mean	Std. Deviation
K-Sharing5	3.0527	.83246
Age	30.7804	10.74059
Work Experience	8.1261	9.19528
Gender	.54	.500
Organizational Concern	3.6520	.76523
Reward & Recognition	2.8514	.89349
Impression Management	3.2365	.81638
Competence	3.6869	.80927
Open Mindedness	3.1216	.71517
Prosocial Motives	3.6565	.70850
Personal Compatibility	3.0878	.58384
Expected Costs Hoarding Knowledge	3.1791	.69805
Benefits of K-Sharing	3.8986	.82160
Expected Costs K-Sharing	2.8294	.82532

To assess the various social capital dimensions, several standard scales were identified, analyzed and used to measure knowledge sharing, organizational concern, open-mindedness and so forth. In July 2003, an online survey was developed and subsequently administered in a tertiary educational institution (academic staff, administrators and students) in Singapore. A total of 262 persons responded to the survey, which assessed various demographic variables and traits as well as the three social capital dimensions highlighted above. 42% of the respondents were male (N=110) with 74.4%

(N=195) of Chinese ethnicity. Indians made up 11.1% (N=29), Malays 3.8% (N=10) with the remaining 10.1% belonging to other ethnic races. 81.3% (N=209) of the sample was involved in education with the remaining respondents drawn from private sector companies in banking and finance, IT, and service industries. The academic community of respondents comprised 30.9% students, 40.8% administrative staff, and 10.3% faculty members.

## 7.2. Measures

The outcome measure was *knowledge sharing*.

**Knowledge Sharing:** A 5-item measure adapted from Liebowitz [40] was used to measure knowledge sharing orientation. Response options ranged from (1) 'strongly disagree' to (5) 'strongly agree'. Sample items are 'Ideas and best practices are shared routinely' and 'It is part of the culture of this organization to share knowledge'. The scale's alpha reliability in this study is .93.

*Organizational concern and recognition & rewards* were the main organizational climate variables assessed (structural dimension).

**Organizational Concern:** A 4-item scale developed by Rioux and Penner [59] was used to measure the extent to which staff valued the organization. Sample items are 'I care about this company' and 'The organization values my contributions'. Response options ranged from (1) 'strongly disagree' to (5) 'strongly agree'. The scale's alpha reliability in this study is .91.

**Reward and Recognition:** the authors developed this 4-item scale. Sample items are 'Our appraisal/staff evaluation system encourages knowledge sharing' and 'People who share knowledge are given due recognition in this organization'. Response options ranged from (1) 'strongly disagree' to (5) 'strongly agree'. The scale's alpha reliability in this study is .92.

*Prosocial motives and impression management* were the main motivational factors assessed (agency dimension).

**Pro-Social Motives:** A 6-item measure adapted from Rioux and Penner [59] was used to measure prosocial motives and altruistic behaviors. Response options ranged from (1) 'strongly disagree' to (5) 'strongly agree' for each of the items. Sample items are 'People here always put themselves first', and 'I want to help my colleagues in any way I can'. The alpha reliability in this study is .95.

**Impression Management:** We constructed a 4-item measure based on insights gained by Goffman [24] and Portes [54]. Sample items are ‘I want to avoid looking bad in front of others as if I did not contribute’, and ‘I want to avoid being blacklisted by my boss’. The alpha reliability in this study is .89.

*Competency and open-mindedness* were the main trust-related factors assessed (relational dimension).

**Competence:** This 4-item scale was adapted from Gefen [22]. It measures the competency and knowledge of co-workers. Sample items include “My colleagues are competent in what they do at work”, and “My colleagues are knowledgeable about their job”. The scale’s alpha reliability in this study is .95.

**Open-mindedness:** A 4-item scale adapted from Payne and Pheysey [52] was used. Response options ranged from (1) ‘not at all likely’ to (5) ‘extremely likely’ for one of the items and, (1) ‘strongly disagree’ to (5) ‘strongly agree’ for the other three items. Sample items are ‘One of the most important values emphasized in my workgroup is open-mindedness’ and ‘My co-workers speak out openly’. The scale’s alpha reliability in this study is .76.

Other variables included *costs of hoarding knowledge as well as costs & benefits of knowledge sharing*.

**Costs of Knowledge Hoarding:** We constructed a 4-item measure. Sample items are ‘I might be excluded from information within the organization if I do not engage in knowledge sharing’, and ‘It will be very difficult to create new knowledge if I do not exchange knowledge with others’. Response options ranged from (1) ‘strongly disagree’ to (5) ‘strongly agree’. The alpha reliability in this study is .85.

**Costs of Knowledge Sharing:** We constructed a 4-item measure. Sample items are ‘Sharing knowledge in this organization may lead to criticism and ridicule’, and ‘Sharing knowledge in this organization is like ‘pointing a gun at your face’ and may imply all kinds of disadvantages’. Response options ranged from (1) ‘strongly disagree’ to (5) ‘strongly agree’. The alpha reliability in this study is .93.

**Benefits of Knowledge Sharing:** the authors constructed a 4-item measure. Sample items are ‘Knowledge sharing makes innovation easier’, and ‘I make more informed decisions with the

inputs of my colleagues’. Response options ranged from (1) ‘strongly disagree’ to (5) ‘strongly agree’. The alpha reliability in this study is .95.

**Table 2. Regression model of the predictors of knowledge sharing<sup>a</sup> (N=148)**

Variable	Model 1	Model 2	Model 3	Model 4 <sup>1</sup>
I Intercept	3.05* **	3.05** *	3..05 ***	3.03***
Age	-.01	-.01	-.01	-.01
Work Experience	-.01	-.01	.01	.01
Gender	.29*	.13	.12	.12
Organizational Concern		.18	.12	.16
Reward & Recognition		.32***	.20** *	.16*
Impression Management		-.05	-.04	.01
Competence		-.05	-.07	-.03
Open minded		.42***	.38** *	.42** *
Pro-social motives		-.03	-.07	-.04
Costs of hoarding knowledge			.34** *	.33** *
Expected benefits of knowledge sharing			.06	-.03
Expected costs of knowledge sharing			.20***	-.18***
Reward Recognition x Competence				-.20***
Reward Recognition x Costs knowledge hoarding				.12*
F	3.357**	25.098***	24.140***	22.773***
R <sup>2</sup>	.065	.647	.701	.721
ΔR <sup>2</sup>	.065	.582	.054	.020

\*  $p < .05$

\*\*  $p < .025$

\*\*\*  $p < .01$

<sup>1</sup> The  $\beta$  values are the unstandardized coefficients from the final regression equation, each term being corrected for all other terms.

## 8. Analysis

**Controls.** Three demographic variables, age, full-time work experience and gender were employed as control variables. Gender was coded (0) ‘male’ and (1) ‘female’. Hierarchical regression analysis was used to examine the predictors of knowledge sharing. Explanatory (independent)

variables were entered into the regression in a specified order as a means of determining their individual and joint contributions to explaining the outcome variable.

## 9. Results

The means, standard deviations and intercorrelations of measures of knowledge sharing and the various social capital dimensions are given in Tables 1 and 2. The results of the correlation analysis are consistent with the proposed hypotheses, indicating support for each of structural, agency, and relational dimensions of social capital as drivers of knowledge sharing. Furthermore, costs of sharing was negatively related to sharing; when costs of sharing was high, knowledge sharing was low. Results of multiple regression analyses carried out to determine whether structural, agency and relational factors predicted knowledge sharing are presented in Table 2 (Regression Model, Predictors of Knowledge Sharing). As Table 2 indicates, reward & recognition, open-mindedness and cost concerns with regard to both knowledge hoarding and sharing turned out to be the strongest predictors of knowledge sharing rather than pro-social motives or organizational concern.

Table 2 includes two interaction terms, over and above the main effect model. The results from this table were used to graph the presentation of the interaction between rewards and recognition and competence (not reported here). The analysis revealed that individuals who are highly competent in their work abilities are less likely to share what they know when they perceive there are few rewards or when their sharing is not recognized by the organization. Individuals who are low on competency, relative to their colleagues, tend to share their knowledge regardless of whether there are organizational incentives to do so.

## 10. Discussion and Conclusions

The findings suggest that contemporary organizations, which engage in knowledge-intensive and knowledge-generating activities, need to institute an environment conducive to the development of all three dimensions of social capital in order for effective knowledge sharing to take place. Particular emphasis needs to be put on organizational climate variables such as

recognition and rewards, which turned out to be very critical predictors of knowledge sharing.

As the study's findings show, the structural dimension of social capital matters and so does the relational dimension. The criticality of open-mindedness as another predictor of knowledge sharing implies that organizations need to implement proper recruitment and screening processes so as to attract a particular type of person who has the required demographic traits, which may make sharing easier. The plausible assumption that personal compatibility predicts knowledge sharing will have to be examined in the context of another study. Voluntary interactions between human actors aimed at exchanging information and experiences often occur when people are comfortable with each other, e.g. due to social similarities.

The study also shows that organizational members consider the possible costs of knowledge sharing and hoarding very carefully before they act. Prosocial motives or altruism do not matter much in the context of our sample which might be a function of the fact that many of the respondents were highly qualified knowledge workers who are known to have a unique orientation (e.g. they are loyal to their own profession but not necessarily to their employer). Individuals who are highly competent in their work abilities turned out to be less likely to share what they know (in contrast to individuals who are low on competency) when they perceive that there are few rewards or when sharing is not recognized by the organization.

Overall, the findings provide evidence for the importance of an effective performance management system if an organization wants to successfully manage the transition from a 'knowledge is power culture' to a high-performing organization where knowledge sharing is seen as a key enabler of improved business performance and value innovation.

Some limitations were observed in the development of the framework. Firstly, the impact of each dimension of social capital had been considered independently from the other dimensions. It was noted that these dimensions of social capital might likely be interrelated in important and complex ways. As the primary objective of the analysis was to focus on the independent effects of those dimensions to the conditions of knowledge sharing, the richness of



the exploration was limited. Future research, therefore, should consider the interrelationships of these dimensions as intervening explanatory factors that could further uncover the mechanisms and dynamics of why knowledge sharing takes place.

Secondly, the different facets chosen to represent the dimensions of social capital are by no means exhaustive. Various other facets such as network ties, norms, and obligations dominant in the social capital literature could have been used as well. However, as this essay attempts to relate social capital robustly with knowledge sharing, the choice of social capital variables was limited to the most relevant. An inclusion of more of such variables would have also meant that the medium of an essay or journal publication, which stresses a tight word limit, would have been unsuitable for such an exposition.

As the research was confined to just one organization, the findings (although they are highly plausible) can not be generalized. More research covering different types of organizations and sectors are necessary to further support the study approach.

Nevertheless, it is believed that this essay has made an important theoretical-empirical contribution to the rapidly progressing field of KM and the development of a stronger theoretical base. This is important since the topic of knowledge sharing is often discussed from the viewpoint of practitioners who stress more on attributes and formulas for effective knowledge sharing rather than theory-driven explanations.

There are several possible avenues where future research on the theory of knowledge sharing can embark on. More attention should be given to the agency dimension of knowledge sharing which, following Archer's concept of the *internal conversations* of private individuals [2], could examine how different reflexivities can influence the individual's decision-making in participating in resource-based knowledge sharing activities that could benefit their career or life trajectories. This would entail examining the tacit-dimension of knowledge and how such knowledge is explicated and structured to explain decisions that are subsequently made. This essay points towards a psychometric tool and questionnaire, the Tacit Knowledge Inventory for Managers, by occupational psychologists Richard Wagner and

Robert Sternberg (Yale University) as a reference for such a research direction.

Furthermore, it would add an interesting angle to compare the theory of knowledge sharing in different organizational settings, such as the military where a top-down hierarchical structure may elicit different knowledge sharing dynamics, and a flat-structured business organization. Different national and cultural settings may also produce different observations. The research possibilities are rich and worthy to be explored further.

## Bibliography

- [1] Aldrich, H. & Whetten, D. (1981) "Organization-sets, Action-sets and Networks: Making the Most of Simplicity". In Nystrom, P. C. & Starbuck, W. H. (eds.) *Handbook of Organizational Design*. Oxford: Oxford University Press, pp. 385-408.
- [2] Archer, M. S. (1995) *Realist Social Theory: The Morphogenetic Approach*. Cambridge & New York: Cambridge University Press.
- [3] Archer, M. S. (2003) *Structure, Agency, and the Internal Conversation*. Cambridge & New York: Cambridge University Press.
- [4] Bartol, K. M. & Srivastava, A. (2002) "Encouraging Knowledge Sharing: The Role of Organizational Reward Systems" *Journal of Leadership and Organizational Studies* 9(1): 64-76.
- [5] Beck, U. (1992) *Risk Society: Towards a New Modernity*. London & Newbury Park, Calif.: Sage Publications.
- [6] Blau, P. (1964) *Exchange and Power in Social Life*. New York: Wiley.
- [7] Bourdieu, P. (1985) "The Forms of Capital". In Richardson, J. G. (ed.) *Handbook of Theory and Research for the Sociology of Education*. New York: Greenwood, pp.241-258.
- [8] Bourdieu, P. & Wacquant, L. J. D. (1992) *An Invitation to Reflexive Sociology*. Chicago: University of Chicago Press.
- [9] Brown, P. & Lauder, H. (2000) "Human Capital, Social Capital, and Collective Intelligence". In Baron, S., Field, J. & Schuller, T. (eds.) *Social Capital: Critical Perspectives*. Oxford & New York: Oxford University Press, pp. 226-242.
- [10] Burt, R. (2002) "The Social Capital of Structural Holes". In Guillen, M. F. et al. (eds.) *The New Economic Sociology: Developments in an Emerging Field*. New York: Russell Sage Foundation, pp. 148-190.
- [11] Burt, R. (2004) "Structural Holes and Good Ideas" *American Journal of Sociology* (In press for Sep 2004 issue).
- [12] Cicourel, A. V. (1973) *Cognitive Sociology: Language and Meaning in Social Interaction*. Harmondsworth: Penguin.

- [13] Cohen, D. & Prusak, L. (2001) *In Good Company: How Social Capital Makes Organizations Work*. Boston: Harvard Business School Press.
- [14] Cohen, W. M. & Levinthal, D. A. (1990) "Absorptive Capacity: A New Perspective on Learning and Innovation" *Administrative Science Quarterly* 35(1): 128-152.
- [15] Coleman, J. S. (1990) *Foundations of Social Theory*. Cambridge, M.A. & London: Belknap.
- [16] Conte, R. & Paolucci, M. (2002) *Reputation in Artificial Societies: Social Beliefs for Social Order*. Boston: Kluwer Academic Press.
- [17] Davenport, T. H., DeLong, D. W. & Beers, M. C. (1998) "Successful Knowledge Management Projects" *Sloan Management Review* 39(2):43-57.
- [18] Evers, H.-D. & Menkhoff, T. (2004) "Reflections about the Role of Expert Knowledge and Consultants in an Emerging Knowledge Economy" *Human Systems Management* 23(4), pp. 137-149.
- [19] Fukuyama, F. (1996) *Trust: The Social Virtues and the Creation of Prosperity*. London: Penguin.
- [20] Fukuyama, F. (1999) *The Great Disruption: Human Nature and the Reconstitution of Social Order*. London: Profile.
- [21] Gabbay, S. M. & Leenders, R. (2001) "Social Capital of Organizations: From Social Structure to the Management of Corporate Social Capital". In Gabbay, S. M. & Leenders, R. (eds.) *Social Capital of Organizations*. Oxford: JAI, pp. 1-20.
- [22] Gefen, D. (2000) "Lessons Learnt from the Successful Adoption of an ERP: The Central Role of Trust". In Zankis, S. H., Doukidis, G. & Zopounidis, C. (eds.) *Decision Making: Recent Developments and Worldwide Applications*. Dordrecht & Boston, M.A.: Kluwer Academic Publishers, pp. 17-30.
- [23] Giddens, A. (1979) *Central Problems in Social Theory*. London: Macmillan.
- [24] Goffman, E. (1969) *The Presentation of Self in Everyday Life*. London: Allen Lane.
- [25] Gupta, A. K. & Govindarajan, V. (2000) "Knowledge Management's Social Dimension: Lessons from Nucor Steel" *Sloan Management Review* 42(1): 71-80.
- [26] Granovetter, M. S. (1985) "Economic Action and Social Structure: The Problem of Embeddedness" *American Journal of Sociology* 91(3): 481-510.
- [27] Granovetter, M. S. (1992) "Problems of Explanation in Economic Sociology". In Nohria, N. & Eccles, R. (eds.) *Networks and Organizations: Structure, Form and Action*. Boston: Harvard Business School Press, pp. 25-56.
- [28] Granovetter, M. S. (2002) "A Theoretical Agenda for Economic Sociology". In Guillen, M. F., Collins, R., England, P. & Meyer, M. (eds.) *The New Economic Sociology: Developments in an Emerging Field*. New York: Russell Sage Foundation, pp. 35-60.
- [29] Guterman, J. (2002) "Out of Sight, Out of Mind" *Harvard Management Communication Letter* 5(9): 3-4.
- [30] Hansen, M. T. (1999) "The Search-Transfer Problem: The Role of Weak Ties in Sharing Knowledge Across Organizational Sub-Units" *Administrative Science Quarterly* 44(1): 82-111.
- [31] Helmstadter, E. (2003) "The Institutional Economics of Knowledge Sharing: Basic Issues". In Helmstadter, E. (ed.) *The Economics of Knowledge Sharing: A New Institutional Approach*. Cheltenham & Northampton, M.A.: Edward Elgar, pp. 11-38.
- [32] Hosmer, L. T. (1995) "Trust: The Connecting Link Between Organizational Theory and Philosophical Ethics" *Academy of Management Review* 20(2): 379-403.
- [33] Huang, J. C. & Wang S. F. (2002) "Knowledge Conversion Abilities and Knowledge Creation and Innovation: A New Perspective on Team Composition". *Proceedings of the Third European Conference on Organizational Knowledge, Learning, and Capabilities, 5-6 April 2002, Athens, Greece*. Athens: Athens Laboratory of Business Administration. Available online: <http://www.alba.edu.gr/OKLC2002/Proceedings/track3.html>. Accessed 26 February 2004.
- [34] Ipe, M. (2003) "Knowledge Sharing in Organizations: A Conceptual Framework" *Human Resource Development Review* 2(4):337-359.
- [35] Jensen, M. C. (1998) *Foundations of Organizational Strategy*. Harvard, M.A.: Harvard University Press.
- [36] Knights, D., Murray, F. & Willmott, H. (1993) "Networking as Knowledge Work: A Study of Strategic Inter-organizational Development in the Financial Services Industry" *Journal of Management Studies* 30(6):975-995.
- [37] Krogh, G. V. (1998) "Care in Knowledge Creation" *California Management Review* 40(3): 133-153.
- [38] Krogh, G. V. (2003) "Knowledge Sharing and the Communal Resource". In Easterby-Smith, M. & Lyles, M. A. (eds.) *The Blackwell Handbook of Organizational Learning and Knowledge Management*. Malden, M.A. & Oxford: Blackwell Publishing, pp.372-392.
- [39] Krogh, G. V., Ichijo, K. & Nonaka, I. (2001) "Bringing Care into Knowledge Development of Business Organizations". In Nonaka, I. & Nishiguchi, T. (eds.) *Knowledge Emergence: Social, Technical, and Evolutionary Dimensions of Knowledge Creation*. Oxford & New York: Oxford University Press, pp. 30-52.
- [40] Liebowitz, J. ed. (1999) *Knowledge Management Handbook*. Boca Raton, Fla.: CRC Press.
- [41] Liebowitz, J. (2000) *Building Organizational Intelligence*. Boca Raton, Fla: CRC Press.
- [42] Lin, N. (2001) "Building a Network Theory of Social Capital". In Lin, N., Cook, K. & Burt, R. S. (eds.) *Social Capital: Theory and Research*. New York: Aldine De Gruyter, pp. 3-29.
- [43] Luhmann, N. (1979) *Trust and Power*. London: John Wiley & Sons.
- [44] Menkhoff, T., Chay, Y. W. and Loh, B. (2004) "Notes from an 'Intelligent Island': Towards Strategic Knowledge Management in Singapore's Small Business Sector" *International Quarterly for Asian Studies* 35(1-2).

- [45] Nahapiet, J. & Ghoshal, S. (1998) "Social Capital, Intellectual Capital, and the Organizational Advantage" *Academy of Management Review* 23(2): 242-266.
- [46] Nohria, N. & Eccles, R. (1992) "Face-to-Face: Making Network Organizations Work". In
- [47] Nohria, N. & Eccles, R. (eds.) *Networks and Organizations: Structure, Form and Action*. Boston: Harvard Business School Press, pp. 288-308.
- [48] Nonaka, I. (1994) "A Dynamic Theory of Organizational Knowledge Creation" *Organizational Science* 5(1):14-37.
- [49] Nonaka, I., Konno, N. & Toyama, R. (2001) "Emergence of 'Ba': A Conceptual Framework for the Continuous and Self-Transcending Process of Knowledge Creation". In Nonaka, I. & Nishiguchi, T. (eds.) *Knowledge Emergence: Social, Technical, and Evolutionary Dimensions of Knowledge Creation*. Oxford & New York: Oxford University Press, pp. 13-29.
- [50] Nonaka, I. & Takeuchi, H. (1995) *The Knowledge Creating Company: How Japanese Companies Create the Dynamics of Innovation*. New York: Oxford University Press.
- [51] O'Reilly, C. & Pondy, L. (1980) "Organizational Communications". In Kerr, S. (ed.) *Organizational Behavior*. Columbus: Grid.
- [52] Payne, R. L. & Phesey, D. C. (1971) "G. G. Stern's Organizational Climate Index: A Reconceptualization and Application to Business Organizations" *Organizational Behavior and Human Performance* 6: 77-98.
- [53] Polanyi, M. (1967) *The Tacit Dimension*. London: Routledge & Kegan Paul.
- [54] Portes, A. (1998) "Social Capital: Its Origins and Applications in Modern Sociology" *Annual Review of Sociology* 24: 1-24.
- [55] Pritchard, R. D. & Karasick, B. W. (1973) "The Effects of Organizational Climate on Managerial Job Performance and Job Satisfaction" *Organizational Behavior and Human Performances* 9: 126-146.
- [56] Putnam, R. D. (1993) *Making Democracy Work*. Princeton, N.J.: Princeton University Press.
- [57] Putnam, R. D. (1995) "Bowling Alone: America's Declining Social Capital" *Journal of Democracy* 6(1): 65-78.
- [58] Quinn, J. B., Anderson, P. & Finklestein, S. (1996) "Leveraging Intellect" *Academy of Management Executive* 10(3):7-27.
- [59] Rioux, S. & Penner, L.A. (2001) "The Causes of Organizational Citizenship Behavior: A Motivational Analysis" *Journal of Applied Psychology* 86(6): 1303-1314.
- [60] Rulke, D. L. & Zaheer, S. (2000) "Shared and Unshared Transactive Knowledge in Complex Organizations: An Exploratory Study". In Shapira, Z. & Lant, T. (eds.) *Organizational Cognition: Computation and Interpretation*. Mahwah, N.J.: Lawrence Erlbaum, pp. 83-100.
- [61] Schurr, P. H. & Ozanne, J. L. (1985) "Influences on Exchange Processes: Buyers' Preconceptions of a Seller's Trustworthiness and Bargaining Toughness" *Journal of Consumer Research* 11(4): 939-953.
- [62] Stehr, N. (1994) *Knowledge societies*. Thousand Oaks, CA: Sage Publications.
- [63] Stenmark, D. (2001) "Leaveraging Tacit Organizational Knowledge" *Journal of Management Information Systems* 17(3):9-24.
- [64] Szulanski, G. & Cappetta, R. (2003) "Stickiness: Conceptualizing, Measuring, and Predicting Difficulties in the Transfer of Knowledge Within Organizations". In Easterby-Smith, M. & Lyles, M. A. (eds.) *The Blackwell Handbook of Organizational Learning and Knowledge Management*. Malden, M.A. & Oxford: Blackwell, pp. 513-534.
- [65] Thompson, E. P., Kruglanski, A. W. & Spiegel, S. (2000) "Attitudes as Knowledge Structures and Persuasion as a Specific Case of Subjective Knowledge Acquisition". In Maio, G. R. & Olson, J. M. (eds.) *Why We Evaluate: Functions of Attitudes*. Mahwah, N. J. & London: Lawrence Erlbaum Associates, pp. 59-95.
- [66] Tjosvold, D., Hui, C. & Sun, H. (2000) "Social Face and Open-mindedness: Constructive Conflict in Asia". In Lau, C. M. et al. (eds.) *Asian Management Matters: Regional Relevance and Global Impact*. London: Imperial College Press.
- [67] Walsham, G. (1993) *Interpreting Information Systems in Organizations*. Chichester: John Wiley & Sons.
- [68] Wickramasinghe, N & Lamb, R. (2002) "Enterprise-wide Systems Enabling Physicians to Manage Care" *International Journal of Healthcare Technology and Management* 4(3/4): 288-302.
- [69] Williamson, O. E. (1975) *Markets and Hierarchies: Analysis and Antitrust Implications*. New York: The Free Press.